

In The Claims

Please amend the claims, as indicated below. The current status of each claim is shown in the complete list of claims 1-21 below.

1.-10. (canceled)

11. (previously amended) An apparatus for collecting and redistributing a flow of a liquid descending in an exchange column having a longitudinal axis, a cross-sectional area, and an inner wall having an inner perimeter, the exchange column containing a first layer of structured packing and a second layer of structured packing above the first layer of structured packing, each of the first and second layers of structured packing having an exterior surface spaced apart from the inner wall, comprising:

a wall-flow collector disposed in the exchange column above the first layer of structured packing and below the second layer of structured packing, the wall-flow collector being fixedly attached to the inner wall and adapted to collect at least a portion of the liquid descending on or near the inner wall of the exchange column;

at least one beam disposed in the exchange column between the first layer of structured packing and the second layer of structured packing, each beam adapted to support at least a portion of the second layer of structured packing and each beam having a first end, a second end opposite the first end, and an elongated channel, having an open top and a floor, between the first end and the second end, the elongated channel being in fluid communication with the wall-flow collector and adapted to transmit at least a portion of the collected liquid collected by the wall-flow collector toward the longitudinal axis a substantial distance across the cross-sectional area of the exchange column;

at least one aperture in the floor of the channel of each beam for dispensing at least a portion of the collected liquid from the channel of the beam to the first layer of structured packing; and

at least one wiper adjacent the inner wall of the exchange column or the exterior surface of the structured packing, the wiper being located above the beam and adapted to transfer at least a portion of the liquid descending on or near the inner wall into the channel of the beam.

12. (previously amended) An apparatus for collecting and redistributing a flow of a liquid descending in an exchange column having a longitudinal axis, a cross-sectional area, and an inner wall having an inner perimeter, the exchange column containing a first layer of structured packing and a second layer of structured packing above the first layer of structured packing, each of the first and second layers of structured packing having an exterior surface spaced apart from the inner wall, comprising:

a wall-flow collector disposed in the exchange column above the first layer of structured packing and below the second layer of structured packing, the wall-flow collector being movable in a vertical direction along the longitudinal axis within the exchange column and adapted to collect at least a portion of the liquid descending on or near the inner wall of the exchange column;

at least one beam disposed in the exchange column between the first layer of structured packing and the second layer of structured packing, each beam adapted to support at least a portion of the second layer of structured packing and each beam having a first end, a second end opposite the first end, and an elongated channel, having an open top and a floor, between the first end and the second end, the elongated channel being in fluid communication with the wall-flow collector and adapted to transmit at least a portion of the collected liquid collected by the wall-flow collector toward the longitudinal axis a substantial distance across the cross-sectional area of the exchange column;

at least one aperture in the floor of the channel of each beam for dispensing at least a portion of the collected liquid from the channel of the beam to the first layer of structured packing; and

at least one wiper adjacent the inner wall of the exchange column or the exterior surface of the structured packing, the wiper being located above the beam and adapted to transfer at least a portion of the liquid descending on or near the inner wall into the channel of the beam.

13.-17. (canceled)

18. (currently amended) An apparatus as in claim 17, further for collecting and redistributing to a first layer of structured packing disposed in an exchange column a flow of a first liquid descending on or near an inner wall of the exchange column, the exchange column having a longitudinal axis and a cross-sectional area, the inner wall having an inner perimeter, and the exchange column

containing the first layer of structured packing and a second layer of structured packing above the first layer of structured packing, each of the first and second layers of structured packing having an exterior surface spaced apart from the inner perimeter of the inner wall, comprising:

a wall-flow collector disposed in the exchange column above the first layer of structured packing and below the second layer of structured packing, the wall-flow collector having an outer perimeter adjacent the inner perimeter of the inner wall and being fixedly attached to the inner wall and adapted to collect at least a portion of the liquid in the first flow of the liquid descending on or near the inner wall of the exchange column without collecting a substantial portion of the liquid in a second flow of the liquid descending in the exchange column away from the inner wall;

at least one beam disposed in the exchange column between the first layer of structured packing and the second layer of structured packing, the beam adapted to support at least a portion of the second layer of structured packing and the beam having a first end, a second end opposite the first end, and an elongated channel, having an open top and a floor, between the first end and the second end, the elongated channel being in fluid communication with the wall-flow collector and adapted to transmit at least a portion of the collected liquid collected by the wall-flow collector away from the inner perimeter of the inner wall a substantial distance across the cross-sectional area of the exchange column;

a plurality of apertures in the floor of the channel of the beam for dispensing at least a portion of the collected liquid from the channel of the beam to the first layer of structured packing at a plurality of locations spaced apart over the substantial distance across the cross-sectional area of the exchange column; and

at least one wiper adjacent the inner perimeter of the inner wall of the exchange column, the wiper being located above the beam and adapted to transfer at least a portion of the liquid in the first flow of the liquid descending on or near the inner wall into the channel of the beam.

19. (canceled)

20. (currently amended) An apparatus as in claim 19, further for collecting and redistributing to a first layer of structured packing disposed in an exchange column a first flow of a liquid descending on or near an inner wall of the exchange column, the exchange column having a longitudinal axis and a cross-sectional area, the inner wall having an inner perimeter, and the exchange column

containing the first layer of structured packing and a second layer of structured packing above the first layer of structured packing, each of the first and second layers of structured packing having an exterior surface spaced apart from the inner perimeter of the inner wall, comprising:

a wall-flow collector disposed in the exchange column above the first layer of structured packing and below the second layer of structured packing, the wall-flow collector having an outer perimeter adjacent the inner perimeter of the inner wall and being movable in a vertical direction along the longitudinal axis within the exchange column and adapted to collect at least a portion of the liquid in the first flow of the liquid descending on or near the inner wall of the exchange column without collecting a substantial portion of the liquid in a second flow of the liquid descending in the exchange column away from the inner wall;

at least one beam disposed in the exchange column between the first layer of structured packing and the second layer of structured packing, the beam adapted to support at least a portion of the second layer of structured packing and the beam having a first end, a second end opposite the first end, and an elongated channel, having an open top and a floor, between the first end and the second end, the elongated channel being in fluid communication with the wall-flow collector and adapted to transmit at least a portion of the collected liquid collected by the wall-flow collector away from the inner perimeter of the inner wall a substantial distance across the cross-sectional area of the exchange column;

a plurality of apertures in the floor of the channel of the beam for dispensing at least a portion of the collected liquid from the channel of the beam to the first layer of structured packing at a plurality of locations spaced apart over the substantial distance across the cross-sectional area of the exchange column; and

at least one wiper adjacent the inner perimeter of the inner wall of the exchange column, the wiper being located above the beam and adapted to transfer at least a portion of the liquid in the first flow of the liquid descending on or near the inner wall into the channel of the beam.

21. (canceled)